

ABSTRACT

In a thyristor based memory cell, one end of a reversed-biased diode is connected to
5 the cathode of the thyristor. During standby, the second end of the diode is biased at a
voltage that is higher than that at the cathode of the thyristor. During restore operation, the
second end is pulled down to zero or even a negative value. If the cell is storing a "1," the
voltage at the thyristor cathode can be approximately 0.6 volt at the time of the pull down.
The large forward-bias across the diode pulls down the thyristor cathode. This causes the
10 thyristor to be restored. If the cell is storing a "0," the voltage at the thyristor cathode can be
approximately zero volt. The small or zero forward-bias across the diode is unable to
disturb the "0" state. As a result, the memory cell is restored to its original state.